

# Closure of an Ischemic Duodenal Fistula with an Over-The-Scope Clip



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## Abstract

The author presents the case of a patient with severe bleeding from a duodenal ulcer that could not be controlled by endoscopic application of metal clips and injection of fibrin glue. Angiographic embolization with placement of coils into the feeding vessel stopped the bleeding. However, 3 days later, a fistula emerged from coil material penetrating into the dorsal duodenum and a peritoneal leakage developed. The fistula was completely closed by placing an over-the-scope clip on the enteral opening of the fistula. This article is part of an expert video encyclopedia.

## Keywords

Clip; Device; Intestinal fistula; Ischemia; Over-the-scope clip; Standard endoscopy; Video.

## Video Related to this Article

Video available to view or download at doi:10.1016/S2212-0971(13)70093-1

## Technique

Standard endoscopy.

## Materials

- Gastroscope: H180; Olympus, Tokyo, Japan.
- Over-the-scope clip (OTSC, 12t/6; Ovesco, Tübingen, Germany).
- Contrast medium: Diatrizoate Meglumine, Diatrizoate Sodium (Gastrografin®; Bayer Vital GmbH, 51368 Leverkusen, Germany).

## Background and Endoscopic Procedure

Through-the-scope endoclips have been used to manage small perforations in the gastrointestinal tract, but they have limitations. A new OTSC system (Ovesco Endoscopy, Tübingen, Germany), may be suitable for the closure of larger GI leaks. The OTSC is made of a nitinol alloy and is installed on a transparent, straight cap that can be mounted on the tip of an endoscope. It is self-retracting and can be released by turning a handle that is attached to the biopsy channel of the endoscope and connected to the mounted clip by a string. The release technique resembles the application of a rubber band ligation of esophageal varices. Clip sizes range from 11 to 14 mm. There are three versions of OTSCs available: one with a blunt (a-type) jag and one with a pointed (t-type) jag, and another clip was developed for gastric wall closure (gc-type).

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## Key Learning Points/Tips and Tricks

- Endoscopic sealing of a small fistula or intestinal leakage with a diameter of up to 10 mm might be closed using an OTSC.
- Some flexibility of the tissue that should be grasped is needed to apply the OTSC safely.
- Up to now, long-term follow-up data are not available for the OTSC.

## Complications and Risk Factors

Securely attaching the OTSC to exactly the intended lesion or site is quite important because detachment of the clip might be difficult.

Transmural grasp of the clip might occur and (minor) perforation or leakage might thereby be caused.

## Scripted Voiceover

Endoscopic placement of hemostatic clips that are marked by a white arrow on this x-ray image had not stopped severe duodenal ulcer bleeding in this patient.

Successful angiographic embolisation of the feeding vessel terminated all duodenal bleeding. The coils are marked with white arrows here.

Some days later, though, coil material penetrated into the duodenum and caused a large fistula tract that resulted in intestinal leakage.

The fistula tract is well demarcated at x-ray by an air column and by endoscopically injected contrast medium.

The coil was partially removed endoscopically with a biopsy forceps before an over-the-scope clip was securely attached to opening of the fistula. The fistula has thereby completely been sealed.

### Further Reading

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